

## ABSTRACT

A fixed blade air mixing apparatus includes a plurality of radially extending vanes which extend away from a common center and terminate at their outer ends within a polygonal shaped enclosure. The plurality of vanes may include an inner section which is curved or pitched in one direction, and an outer section which is curved or pitched in a second direction away from the inner section, the inner and outer sections sharing a common leading edge. In another embodiment, the vanes extend straight without a curvature. The apparatus is intended for use in eliminating stratification of airstreams of different temperatures flowing through a common passage, for example, in heating, air conditioning, 5 or other ventilating ducts. The vanes are designed to establish downstream turbulence of the airstreams passing therethrough which produces optimum mixing effectiveness and a uniform velocity profile of the air downstream of the mixing apparatus with a minimum 10 pressure drop as the air flows through the apparatus.

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